

ALTERNATING APERTURE PHASE SHIFTING PHOTOMASK
WITH IMPROVED INTENSITY BALANCING

ABSTRACT OF THE DISCLOSURE

The present disclosure includes describes a method for fabricating an AAPS photomask with improved intensity balance. The method includes forming an alternating aperture phase shifting photomask pattern on a substrate, including forming trenches within the substrate. The method further includes forming a layer of antireflective material within the bottom of at least one trench. In one embodiment the layer antireflective material is Magnesium Fluoride (MgF_2) formed using a vacuum evaporation technique. The layer of antireflective material formed at the bottom of the trench areas increases the transmission of light through the trench areas by improving light coupling into the trench.

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